

**Talking the Talk: The Effect of Vocalics in an Interview**

*Senior Capstone Project for Marilena Phillips*

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# **Talking the Talk: The Effect of Vocalics in an Interview**

The Honors Program

Senior Capstone Project

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### **ABSTRACT**

Our voices carry more than just content. People continuously make assumptions of one's intelligence, credibility, personality, and other characteristics merely based on the way we talk. As the diversity of individuals in the workplace increases, so too do the differences in how those individuals talk. It is important that we understand how these different ways of speaking are being perceived in the workplace. More specifically, how are individuals being perceived prior to being hired via the interview process? This Honors Capstone project aims to understand the impact that vocal characteristics in an individual have on the interviewer's perception of the interviewee, and how that impacts the hiring process. This project will offer professionals of all ages tangible advice on ways to increase one's chances of receiving a job just by altering aspects of one's voice.

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### **INTRODUCTION**

Our voices carry more than just content. People continuously make assumptions of one's intelligence, credibility, personality, and so on merely based on the sound of one's voice. With different voices from diverse backgrounds entering the workplace – now more than ever - how are these different ways of speaking being perceived in the office? How are they being perceived prior to being hired, such as during the interview process? This Honors Capstone project aims to answer the question “does the way in which one speaks affect their chances of being hired”? The focus is to explain why the way in which one speaks affects the interviewer's perception of the interviewee, and so the candidate's chances of being hired.

The main goal of this study is to discover how one's voice is being perceived in the workplace, specifically during an interview. By answering this question, those reading this study can increase their chances of being hired by altering different aspects of their voice.

This project intends to contribute to the existing research on the effects of vocalics and employability. The focus of this study is to observe the perceptions of rate of speech, pitch, volume, and vocal fluctuations in relation to an interviewee. This project will offer professionals of all ages tangible advice on ways to increase one's chances of receiving a job just by altering aspects of one's voice.

This particular area of research has not been studied in depth before. There are many studies that stress the content of speech in interviews and public speaking, but these studies put vocalics and other nonverbal cues secondary in importance. However, multiple studies stress the importance of vocalics in being an effective and persuasive communicator. Stewart and Cash (1988) explain

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that during an interview, interviewees must be concerned with verbal and nonverbal competencies because both appear to influence the interviewer's perception. With interviews today becoming less traditional (face to face) and more streamlined, there is an increasing importance placed on such factors such as voice that may impact perceptions.

This research would be contributing to the field of vocalics and their effects in the "real world." With this information, job seekers can make efforts to modify their voices in order to translate their honesty, trustworthiness, and likability in a more meaningful way. This study is believed to allow a vast amount of people to improve their interviewing skills and communicate their qualifications more successfully.

## **LITERATURE REVIEW**

### **Importance of Interviews**

In recent years, the interview process has evolved to reflect the increased competition over qualified candidates and advancements in technology. But even with rapid growth in technology, the interview, at its most basic form, remains "a form of interpersonal communication in which two persons interact largely through a question and answer format for the purpose of achieving rather specific goals" (DeVito, 1985). However, with the integration of phone screenings and Skype into the interview process, the basic definition of an interview is expanding into the digital realm.

Although advancements in technology have begun to affect the interview process, such as Skype and video calling, the phone interview remains an integral part of the hiring process. Most companies are utilizing phone interviews as a pre-screening method to narrow down the

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applicant pool (Maurer, 2016). The phone interview is becoming more commonplace because of the cost and time saving benefits of the phone interview (Ballinger, 2016; Hilpern, 2003; Milne-Tyte, 2011; Chapman & Webster, 2003; Tyler, 2014). And with over 70 percent of companies taking between 11-60 days to fill a position (Jobvite, 2015), more stress is being placed on the importance of a timely, cost efficient hiring process. Today, phones are easily accessible and most people own at least one mobile device. According to a Pew Research Center survey of cell phone use in public, they found that out of 3,217 Americans, 3,042 said they owned a cell phone. Of those owners, 90 percent said they frequently have their phone with them. Ninety-five percent of cell phone owners aged 30 to 49 said they frequently carried their phone with them. With the vast majority of Americans not only possessing a cell phone, but always carrying it with them, phone interviews allow for an easy and convenient way for both the interviewer and the candidate to communicate.

Along with being both cost and time efficient, phone interviews are a proficient way to filter out unqualified candidates quickly. Fran Peters, PHR, human resources manager at SWC Technology Partners Inc., pre-screens top candidates by phone to sort the field. "We disqualify approximately 75 percent of candidates based on that initial phone screen" (Tyler, 2014). An added benefit of using phone pre-screening for some companies is the reduced likelihood of discrimination based on appearances, especially in relationship to age discrimination (Hilpern, 2003). In the 2015 Recruiter Nation Survey, 63 percent of recruiters said that appearance left a lasting impression on them. Reliance on a candidate's appearance can cause unintentional biases, and possibly, outright discrimination. The Implicit Attitude Test (IAT), designed in 1998 by three scientists – Tony Greenwald, Mahzarin Banaji, and Brian Nosek, looks at identifying and

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educating the public on hidden biases. The IAT measures the strength of associations between concepts (e.g., black people, gay people) and evaluations (e.g., good, bad) or stereotypes (e.g., athletic, clumsy). Results have found that overall 33 percent of respondents have a strong preference for abled people compared to disabled people, 57 percent of respondents have a moderate to strong preference for white people compared to black people, and 64 percent of respondents have a moderate to strong preference for young people compared to old people. The Equal Employment Opportunity Commission (EEOC) reports that in 2015, there was a total of 89,385 claims filed for discrimination, 34.7% from race, 29.5% from sex, and 10.6% from national origin. With discrimination rates consistently high and implicit biases still present, phone interviews are a solution to mitigate possible internal biases of the interviewer.

#### Interviewer's Perception

With phone interviews acting as a way to filter out unqualified candidates quickly and avoid biases stemmed from appearance, the interviewer's perception of the candidate within the 20-30 minute time frame of an interview holds much importance. The role of the interviewer and human resource departments has become a pivotal part to the success of many organizations. Jack Welch, former CEO of General Electric, believes that "HR is the driving force behind what makes a winning team. We make the argument that the team that fields the best players wins. HR's involved in making sure we field the best players." This need for the "best players" has significantly increased the importance of the role recruiters and interviewers have in an organization. The most fundamental role of the recruiter is to find qualified candidates and bring them into the company. Fifty-two percent of employers are placing talent attraction and retention at the top of their to-do lists (Hogan, 2014). Amongst the multiple tasks performed by recruiters



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and interviewers pivotal to talent attraction and retention, one of the most important tasks is to compare the values of the candidate with those of the organization. As seen in Jobvite's 2015 Recruiter Nation Survey, 88 percent report that cultural fit is very important. Most importantly, studies have shown that the interviewer's assessment of the candidate often influences the interviewer's hiring recommendations and directly affects an organization's hiring decisions, e.g. job offers (Cable & Judge, 1997). Along with assessing the overall organizational fit of the candidate, interviewers assess additional factors that heavily influence one's chances of being hired. In the 2015 Recruiter Nation Survey, 79 percent of recruiters report that conversational skills leave a lasting impression.

The growing need to leave a positive lasting impression on the interviewer has caused some candidates to manipulate the interviewer's perception by emphasizing positive traits, conforming to the opinions of the interviewer, and claiming responsibility for positive events (Gilmore & Ferris, 1989). Prickett et al. (2000) comment that it is "likely that the final evaluations made by interviewers will be determined in large part, or at least anchored, by the first impression, which may have been formed at the initial handshake and introduction." In addition, when the interviewer is comparing the values of the organization with those of the candidate, it can become difficult for the interviewer to distinguish values of the company and those they themselves hold. The similarity-attraction hypothesis embodies this natural reaction. The similarity-attraction hypothesis states that "demographic variables will impact judgments to the extent to which they make the decision-maker view the applicant as similar or dissimilar" (Deprez-Sim & Morris, 2010). These studies emphasize the natural reaction for humans, even interviewers, to favor those similar to themselves. Research has shown that when superiors rate

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their subordinates, the more similar the parties are, the higher rating the superior tends to give (Greenberg, 2010). This tendency applies to certain dimensions, such as similarity of values and habits, similarity of beliefs about the way things should be at work, and similarity with respect to demographic variables (Greenberg, 2010). The similar-to-me effect seems to be partially the outcome of the tendency for “people to be able to empathize and relate better to similar others and to be more lenient toward them” (Greenberg, 2010). Subsequently, a positive relationship with these individuals may lead superiors to judge similar subordinates more favorably (Greenberg, 2010).

Along with bringing in qualified candidates into the company and assessing organizational fit, the interviewer’s job is to match the qualifications and soft skills required of the position with those the candidate possesses. Forbes Magazine claims that amongst the “10 Skills Employers Most Want in 2015 Graduates” is the ability to sell and influence others, which can be more commonly defined as being persuasive (Adams, 2014). Other Forbes articles report that professionalism, high-energy, and confidence, as well as intelligence, honesty, and displaying leadership are amongst the traits most sought after by employers. All of which influence the candidate’s cultural fit (Casserly, 2012; Sundheim, 2013). In CareerBuilder’s 2014 survey, companies are looking for candidates that possess the following soft skills: self-motivated, team-oriented, confident, flexible, and effective communication (CareerBuilder, 2014). But along with all the soft skills, the most important thing to get across in an interview is trustworthiness (Halvorson, 2015).

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#### The Study of Nonverbal Communication

The similar-to-me effect, amongst other perceptions, such as persuasion, confidence, and trustworthiness, have been regarded in the study of nonverbal communication across multiple contexts and situations. Mehrabian and Ferris pitted vocal, facial, and verbal cues against each other to develop the perceived attitude of the communicator. They found that the perceived attitude of the communicator is 7% verbal, 38% vocal, and 55% facial (Mehrabian & Ferris, 1967). Similar research shows that about 60-65 percent of social meaning is derived from nonverbal behaviors (Burgoon, 1994). According to Burgoon's summary in "Nonverbal Signals", adults generally place more reliance on nonverbal than verbal cues in determining social meaning (Burgoon, 1985). People are likely to rely on nonverbal cues, in not only the workplace but any social context because it "supplies invaluable contextual cues that aid in the interpretation of the verbal message" (Burgoon, 1985). By revealing more than what is being expressed in the verbal message, an interviewer can conclude the message's validity by decoding the candidate's emotional state, deception, and other cues. "Verbal content facilitates interpretation of the accompanying nonverbal signals, thus verbal and nonverbal channels are inextricably intertwined in the communication of the total meaning of the interpersonal exchange" (Burgoon, 1985).

Simply speaking, the study of nonverbal communication is defined as "communication effected by means other than words, assuming words are the verbal element" (Knapp et al., 2014). This definition, however, does not cover the complexity that is nonverbal communication. There are several studies of nonverbal communication to consider in relation to this simplistic definition. The main areas of study within nonverbal communication are (1) kinesics (visual bodily

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movements, including gestures, facial expressions, trunk and limb movements, posture, gaze and the like); (2) physical appearance (manipulable features such as clothing, hairstyle, makeup, and adornments; non-manipulable features such as physiognomy and height would be excluded); (3) haptics (use of touch), (4) proxemics (use of interpersonal distance and spacing relationships); (5) chronemics (use of time as a message system, including such things as waiting time, lead time, and amount of time spent with someone); (6) artifacts (manipulable objects and environmental features that may carry messages from their designers or users); and (7) vocalics or paralanguage (use of vocal cues other than the words themselves, including such features as pitch, loudness, tempo, pauses, and inflection) (Burgoon, 1985).

### The Impact of Nonverbal Communication

Along with providing cues that aid in message interpretation, nonverbal cues help us construct perceptions of another person's personality and character. Some studies have found that sports teams that wear black are perceived as more aggressive (Frank & Gilovich, 1988). Others have found that childlike expressions, such as an open mouth and a tilted head, are indications of flirting and affection (Burgoon, Buller, & Woodall, 1989). While others show that lower pitched voices amongst men are perceived as being more dominant and attractive to women (Hodges-Simeon, Gaulin, & Puts, 2010). However, some of the most commonly studied are perceptions of persuasiveness, dominance, trustworthiness, honesty and deception, and likability.

### Persuasion

Persuasion is one of the most popular topics in the study of communication. Books, such as *How to Win Friends and Influence People* by Dale Carnegie, *Fascinate: Your 7 Triggers to Persuasion and Captivation* by Sally Hogshead, and *Made to Stick: Why Some Ideas Survive and*

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*Others Die* by Chip and Dan Heath, all claim to know the secret behind persuasion and getting others to do what one wants.

Persuasion is defined as “a successful intentional effort at influencing another’s mental state through communication in a circumstance in which the persuadee has some measure of freedom” (O’Keefe, 2016). The persuadee is free to interpret both the speaker and the message however they choose. Chances of persuasion increase when the speaker and message are perceived as having credibility and expertise. Persuasion is effected by how credible the speaker is perceived to be and how much expertise they claim to possess (O’Keefe, 2016).

In the study of nonverbal communication, persuasion and credibility act as key dependent variables across multiple interpersonal settings. In a classroom setting, instructor credibility was seen to increase when the instructor was seen as enthusiastic and homophily, or similar to themselves (Wheless et al., 2011). Other studies have shown Caucasian teachers to be perceived as more caring and competent than Hispanic teachers (Glascock & Ruggiero, 2006). Conversely, Patton (1999) observed that African American teachers were rated more credible than European American colleagues.

Within the area of vocalics, persuasive voices are ones that are expressive, less stiff, and warmer (Buller & Aune, 1988), resulting in greater overall vocal pleasantness (Burgoon, Birk, & Pfau, 1990). Pearce and Conklin (1971) found that an actor was perceived as being more credible when using a serious, scholarly voice, defined as low pitch and volume, small variations in both, than when using emotional delivery. Addington (1968) discovered that throaty, nasal, breathy, or tense deliveries were perceived as less credible and competent. Other studies have shown that

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faster rates of vocalization operate to heighten a speaker's source credibility and overall persuasiveness (Woodall & Burgoon, 1983; Smith & Shaffer, 1995; Miller et al., 1976).

Additional studies have shown that the reverse occurs: slow speech rate decreases persuasiveness. Yokoyama and Daibo (2012) found that for women, slow speech rate gave the impression of less expertise.

### Dominance

Similar to persuasion and credibility, the perception of dominance has been studied across various contexts and is manifested in several nonverbal cues. Dominance has been linked to the same domain as power, authority, control, and compliance (Anderson & Bowman, 1999).

Dominance refers to "one's position in society which generally contributes to power and dominance" (Anderson & Bowman, 1999). For example, in the context of the workplace, a suit is perceived as a symbol of dominance (Mehrabian, 1976). In the field of kinesics, an erect posture with shoulders back and chest out is perceived as dominant, rather than submissive (Furley, Dicks, & Memmert, 2012). In that same article, eye contact was a sign of confidence, so when players making a penalty shot took a submissive stance with minimal eye contact, the goalie's confidence in their abilities increased (Furley, Dicks, & Memmert, 2012). Similarly, body expansion or taking up more space is perceived as dominant (Tiedens & Fragale, 2003). Surprisingly, Tiedens and Fragale (2003) also found that dominance did not illicit a mirrored response; rather, it elicited a complementary response. So when one person is dominating, the other is submissive (Tiedens & Fragale, 2003). In the study of haptics, researchers have found that haptics are closely related to dominance. Henley (1977) found that the person in power is more likely to touch a subordinate than she/he is to be touched by subordinates.

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Dominance has also been associated with overall vocal pleasantness (Semic, 1999; Zuckerman & Driver, 1989). Latu and Schmid (2016) discovered that in an interview setting, male interviewers were perceived as more dominant when they frequently interrupted the candidate. In this case, male nonverbal dominance negatively affected female applicants. Dominance has been associated with speech rate, pitch, and masculine tones. Buller and Aune (1988) found that fast talkers were perceived as more credible and dominant. Masculine male voices have been perceived as more dominant than feminine voices (Vukovic et al., 2011). Similarly, lower pitched, or more masculine toned voices, have been perceived as more dominant (Knowles & Little, 2016; Hodges-Simeon, Gaulin, & Puts, 2010).

### **Trustworthiness**

Trustworthiness is regarded by Harvard Business Review as the most important thing to communicate during a job interview. Trustworthiness, comprised of warmth and competence, is linked to perceptions of how one will perform in future situations (Halvorson, 2015). This adds to the overall assessment of cultural fit.

Trustworthiness has been studied across multiple contexts; however, the most prominent are within an interview setting. Knowles and Little (2016) found that feminine pitch traits, compared to masculine pitch traits, were associated with higher cooperation ratings, leading to higher perceptions of trustworthiness. Elkins and Derrick (2013) showed that pitch and duration of response both negatively predicted lower trust levels. Results have shown that higher vocal pitch early on in an interaction predicted lower trust levels. Even those with an average pitch (206 Hz) had a lower initial trust level, but over time the inverse relationship between vocal pitch and trust

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moved toward equilibrium (Elkins & Derrick, 2013).

Perceptions of trustworthiness have also been linked to faster speech. Yokoyama and Daido (2012) also found that slow rate of speech decreased trustworthiness as compared to fast rate of speech. In addition to speech pitch and rate, trustworthiness has been associated with overall vocal attractiveness (Semic, 1999), conversational styles of speech (Pearce & Conklin, 1971), and feminine male voices (Vukovic et al., 2011).

### Honesty

Similar to the concept of trustworthiness, honesty has been looked at across multiple contexts, but more specifically within the context of lie detector tests and job interviews.

Most often, researchers study honesty by measuring dishonesty or deception. Mehrabian (1972) and Knapp et al. (1974) report that liars decrease the frequency and duration of glances, decrease forward body lean and increase distance. Other studies focus on the image protection tendency of liars. DePaulo et al. (1985) claim that the prime objective of deceivers is to protect their image. This theory is manifested in behaviors such as nodding, smiling, and refraining from interruptions. While some researchers support this theory, the majority have found the opposite to be true: that no differences in these behaviors are significantly displayed (Ekman & Friesen, 1974; Mehrabian, 1972; Zuckerman et al., 1981). In addition, studies have most often emphasized the manifestation of deception in one's body and voice. Although research is mixed on which body movements translate to lying, the more common behaviors cited are postural shifting, random leg, foot, or head movement, and gestural activity (Ekman & Friesen, 1974; Knapp et al., 1974; Mehrabian, 1972). Lastly, even though lack of eye contact seems to be a



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common signal of dishonesty, some studies have refuted this claim (DePaulo et al., 1985).

In the context of vocalics, the topic of honesty and deception are amongst the most prominent.

In an interview setting with nurses, Ekman et al. (1980) found that deception and honesty can be identified most clearly by the elevation of voice pitch. Harrison, Hwalek, Raney, and Fritz (1978) reported that subjects were more hesitant in responding during deception and that deceptive responses were longer and more elaborated. Mehrabian (1971) found that the rate of speech during deception was faster. In addition, results showed that more speech disruptions occurred during deception. Several studies have confirmed that voice pitch rises during deception (Ekman & Friesen, 1974; Ekman, Friesen, & Scherer, 1976; Streeter et al., 1977).

### **Likability**

Lastly, perceptions of likability have been studied across several contexts, but the most noteworthy is the context of dating and intimate relationships. Rubin (1970) found that couples described as being in love spent more time gazing into each other's eyes. Likability also increases with those that we perceive as similar to ourselves. The likability heuristic reasons that what is liked, must be good (O'Keefe, 2016). Many use this heuristic for the same reasons other heuristics are used: they are quick, easy, and involve less thinking. Some social judgment commentators elaborate on this daily impression formation process as being characterized by fast, automatic, heuristic-based perception processes that are used due to a lack of "effortful cognitive analysis" (Gilbert, 1995; Prickett et al., 2000). In the context of an interview, the same principle can be observed. Dabbs (1969) found that the more an applicant is similar to the interviewer, the more highly the applicant will be rated as likable.

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In the field of vocalics, likability has been associated with vocal attractiveness (Semic, 1999; Zuckerman & Driver, 1989) and conversational style of speech (Pearce & Conklin, 1971). In support of the “What is beautiful is good” phenomenon, those with more attractive voices are viewed more favorably (Zuckerman & Driver, 1989; Semic, 1999). Attractive voices are defined as having moderate pitch, strong resonance, clear articulation, and appropriate volumes (Semic, 1999). Others define an attractive voice as being neither too high nor too low pitched (Zuckerman & Miyake, 1993) and varies throughout a conversation (Burgoon, et al., 1996). In contrast, unpleasant voices that are disassociated with being likable have been described as being too loud or having too much energy variation while speaking (Eyben et al., 2013).

Within the field of vocalics, likability has been most associated with pitch and vocal variety. Ohala, (1994) states that in human speech, ‘social’ messages—such as politeness and submission— are signaled by a high pitch. Applied to the introductory text of a telephone interview, it means that a higher pitched request expresses the submissive or non-authoritative position of the interviewer, and is in accordance with social rules and politeness, and thus more likable. Similarly, likability has appeared to be marked primarily by higher levels of pitch and intonation; in contrast authority and reliability were primarily indicated by a lower pitch (Van der Vaart et al., 2006). Weiss and Burkhardt (2010) looked at how pitch affected likability differently between the genders. Results showed that lower  $f_0$  (fundamental frequency) and  $S_{cog}$  (center of gravity) are found to be positively correlated with “likability” for men, which was also true for female voices. Women were rated more positively with higher  $S_{sd}$ , i.e. more energy spread over the spectrum. Overall, many researchers believe that increasing one’s  $f_0$  mean is positively correlated with a greater degree of perceived likability (Michalsky & Schoormann).

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However, other studies have found only moderate evidence for the relationship between likability based on voice (Larrance & Zuckerman, 1981). Ultimately likability is most associated with consistent verbal and nonverbal messages (Weisbuch et al., 2010).

#### Vocalics and Paralanguage

Amongst the areas of nonverbal communication studied, vocalics or paralanguage have significant impact on verbal messages and perception of the speaker, especially in the interview setting. There are many studies that stress the content of speech in interviews and public speaking; however, these studies put vocalics and other nonverbal cues secondary in importance (Ekman et al., 1980). Still, multiple studies stress the importance of vocalics in being an effective and persuasive communicator.

Vocalics, also referred to as paralanguage, can be defined as “the physical mechanisms for producing nonverbal vocal qualities and sounds” (Knapp et al., 2014). Elements of vocalics include components such as pitch, loudness, tempo, pauses, and inflection (Burgoon, 1985). Other elements include speech rate, frequency, amplitude and intensity (Knapp et al. 2014). Manipulation of these vocal elements can affect the nature of personality perception (Addington, 1968). Generally, those with more attractive voices are viewed more favorably (Zuckerman & Driver, 1989; Semic, 1999). Attractive voices are defined as having moderate pitch and strong resonance clear articulation, and appropriate volumes, which can lead the speaker to be perceived as powerful, strong, assertive, and dominant (Semic, 1999). Amongst the areas of vocalics researched, pitch, rate, and volume are the most featured.

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#### Pitch

Described as the highness or lowness of the vocal tone (DeVito, 1985), pitch has been seen to heavily influence the perception of the speaker. Some researchers claim that pitch has two effects: raised pitch is judged as extroversion, assertiveness, confidence, and competence, but also tense and nervous (Argyle, 1986). Conversely, higher pitch voices have been associated with childlike submissiveness (Anderson & Bowman, 1999). Comparatively, lower pitch has been associated with authority, dominance, and masculinity (Knowles & Little, 2016; Hodges-Simeon, Gaulin, & Puts, 2010). According to researcher David Goleman, “voice pitch is a more dependable indicator than facial expression” in regards to determining deception (Goleman, 1982). Pitch has also been notable in the study of emotions and emotional recognition. Scherer (1986) studied thirty-nine encoded emotions. Amongst his findings, results suggest that joy, anxiety, fear, and sometimes anger are associated with raised pitch; whereas, depression is associated with lowered pitch.

#### Rate and Volume

Similarly to pitch, speech rate and volume have been seen to significantly influence the perceptions of the speaker. Speech rate is the “speed in which we speak, generally measured in words per minute” (DeVito, 1985). Like pitch, speech rate or duration has been associated with dominance (Buller & Aune, 1988). Talking fast has also been associated with perceptions of enthusiasm and being animated (Addington, 1968). Increased speech rate, like increased pitch, correlates with feelings of anxiety, fear and anger (Scherer, 1986).

Along with speech rate, speech volume, or amplitude, affects similar perceptions of the speaker. Speech volume, or the relative loudness of one’s voice (DeVito, 1985), has been tied to

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perceptions of confidence (Kimble & Seidel, 1991). Speech amplitude is most commonly associated with perceptions of persuasiveness and credibility. Studies have shown that faster rates of vocalization operate to heighten a speaker's source credibility and overall persuasiveness (Woodall & Burgoon, 1983); Smith & Shaffer, 1995; Miller et al., 1976). Other studies have shown that the reverse occurs: slow speech rate decreases persuasiveness. Yokoyama and Daibo (2012) found that for women, slow speech rate gave the impression of less expertise. Overall, research indicates that faster and louder speakers are perceived as more persuasive (Mehrabian & Williams, 1986).

### Vocalics and Interviews

Although a call for research of vocalics in the interview process have been expressed, little work can be found on the subject. Stewart and Cash (1988) explain that during an interview, interviewees must be concerned with verbal and nonverbal competencies because both appear to influence the interviewer's perception. With interviews today becoming less traditional (face to face) and more streamlined, there is an increasing importance placed on such factors such as voice that may impact perceptions.

### The Importance of First Impressions in a Job Interview

Areas of vocalics prevalent in the interview process are pitch, rate, and volume. These elements of speech directly affect values such as persuasiveness, dominance, trustworthiness, honesty and likability; characteristics companies look for in candidates.

Based on the research discussed previously, the need for further research in a "real world" setting is required to find if the qualities sought after in a job candidate discussed in the literature

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coincide with reality. Based on the previous literature, the following research questions are proposed:

1. How does rate, pitch, and vocal variety impact an interviewer's perception of trustworthiness, honesty, and likability?
2. How does rate, pitch, and vocal variety impact the likelihood of being hired?

## **METHOD**

The research was conducted in two phases: (1) semi-structured interviews were conducted to identify/confirm "desirable traits" in potential employees; (2) a four condition randomized trial of vocalic styles on perceptions of honesty, trustworthiness and likability was conducted.

Institutional Review Board approval was obtained before each phase of the study.

## **PHASE 1: CHARACTERISTIC IDENTIFICATION**

In order to verify if the characteristics sought after in a desirable job candidate, identified in the literature review, were in fact realistic, three semi-structured interviews with professionals in recruitment and staffing were conducted. The participants were three professionals, ranging from 30-60 years old approximately, who previously or currently work in a recruitment or staffing position. Participants were selected from personal relationship, due to the student researcher's employment in the human resource department of two local companies. Each professional had diverse backgrounds and experiences. The professionals had previously worked in various industries, such as commercial property insurance, textile manufacturing, banking, marketing,

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and health services.

#### **Apparatus and Materials**

A semi-structured interview (see Appendix A) was selected as it allows for greater flexibility and expansions within the question and answer format, while still providing some overall cohesion between interviewees. Not all questions were used. The order in which the questions were asked varied based on the nature of the dialogue with each individual. At the end of the interview, participants were asked to rate characteristics on a scale from 1-10 on importance.

Characteristics were taken directly from the studies of Adams (2014), Casserly (2012), Sundheim (2013), CareerBuilder (2014), and Halvorson (2015). Student researcher, Marilena Phillips, scheduled and conducted the interviews at the participant's current place of employment. Interviews were recorded using an audio recording software. Informed consent was received prior to the start of the interview.

Results indicated that the four most hireable traits across the three interviews were enthusiasm, honesty, trustworthiness, and likability or cultural fit (see Table 1). Enthusiasm was not selected for two reasons. First, trustworthiness and enthusiasm are confounding factors, so the vocal trait would not be properly measured. Second, the interviews lent more evidence toward honesty, trustworthiness, and likability, than to enthusiasm.

## **PHASE 2: MAIN STUDY**

### **Participants**

The participants of the study were chosen by a populated list of 2500 Bryant University alumni and a list of 76 professionals through the Bryant University Amica Career Center, who are

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currently living in the New England region. In total, 126 participants completed the survey (74 male, 52 female). Ages ranged from 18 to over 65, with the majority (31%,  $n = 40$ ) being between 25-35 years of age and the next largest group being 46-55 (23%,  $n = 30$ ). These participants were chosen due to their experience in the hiring and interview process, but not necessarily working in staffing or recruitment. A majority of participants had been with current employers for 10 or more years (45%,  $n = 57$ ), with the next highest percentage being 5-10 years (23%,  $n = 30$ ).

### **Procedure**

Participants were randomly assigned to one of four audio file conditions: (a) high pitch, slow rate; (b) high pitch, fast rate; (c) normal (average pitch, rate and vocal variety); and (d) monotone (average pitch and rate, no vocal variety). Each participant received an email inviting them to participate in the study and provided them a link to access the assigned audio clip and survey. After selecting the link, participants were required to read and agree to an informed consent form before being allowed to proceed. After listening to the assigned audio clip, participants were then asked to complete a survey. The survey was designed to honesty, likability, trustworthiness and likelihood of being hired. The survey concluded with a demographics section (see Appendix B).

### **Audio Clips**

Audio messages were selected in order to only focus on vocalic qualities and not be biased by physical appearance. All recordings used the same female voice. Vocalic qualities were varied in each audio message (characteristics varied presence of vocal variety, lack of fluctuations and speech variety, fast rate, slow rate, high pitch, and low pitch). The same script was used for all



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four recordings, so that the only variation within each message was based on vocalics (see Appendix C).

#### Honesty

The honesty variable was measured using a scale from Reysen and Puryear (2014). The scale consisted of eight items (“This person is honorable,” “I believe what this person says”) on a 7-point Likert type scale (1 = Very strongly disagree, 7 = Very strongly agree). Reliability for the scale indicated a Cronbach’s alpha coefficient was .91 ( $M = 4.60$ ,  $SD = .88$ ).

#### Likability

Likability was measured using a scale developed by Reysen (2005). The scale contained 11 items that included statements such as “I would like to be friends with this person,” “I would like this person for a co-worker,” and “This person is approachable.” The scale asked participants to indicate how much they disagreed (1 = Very strongly disagree) or agreed (7 = Very strongly agreed) with each of the statements on a 7-point Likert type scale. Reliability analysis resulted in a Cronbach’s alpha coefficient of .92 ( $M = 3.75$ ,  $SD = .84$ ).

#### Trustworthiness

A six item semantic differential scale was used to measure participant’s views of the person in the audio clip as being trustworthy (Pearce & Conklin, 1971). A 7-point scale asked participants to indicate trustworthy characteristics of the audio clip based on two contrasting anchors. Items included Honest (7) vs Dishonest (1), Kind (7) vs. Cruel (1), and Just (7) vs. Unjust (1). Reliability analysis resulted in a Cronbach’s alpha coefficient of .91 ( $M = 4.63$ ,  $SD = .86$ ).

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#### Hirable

The final variable measured was the likelihood that the participants would hire the “potential candidate” that was represented by the audio clip. This was measured with a single item “How likely would you be to hire this person?” Participants indicated the degree of their answers by using a 7-point scale with 1 representing “extremely unlikely” and 7 representing “extremely likely” ( $M = 3.63$ ,  $SD = 1.72$ ).

## **RESULTS**

### Results (RQ1)

The first research question wanted to determine the potential impact of an individual’s vocal rate, pitch, and vocal variety on an interviewer’s perception of her/his trustworthiness, honesty, and likability. For each of these, a one-way Analysis of Variance (ANOVA) was performed with trustworthiness, honesty and likability being a dependent variable respectively (See Table 2). In each case, the vocalic condition (high pitch/slow rate, high pitch/fast rate, normal, and monotone) was used as the independent variable.

The first set of analyses displayed a significant difference between vocalic condition and honesty ( $F(3, 127) = 3.19$ ,  $p < .05$ ). In a follow up to this question, a post hoc test using LSD (least significant difference) indicated that the normal vocalic condition ( $M = 4.91$ ,  $SD = .93$ ) was perceived as being more honest compared to both the high pitch/slow rate ( $M = 4.42$ ,  $SD = .86$ ) and high pitch/fast rate ( $M = 4.33$ ,  $SD = .85$ ) conditions.

The second set of analyses examined the impact of vocalic conditions on likability. Again,

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results indicated that a significant difference occurred between conditions ( $F(3, 127) = 6.44, p < .001$ ). Post-hoc tests (LSD) indicated that again the normal condition ( $M = 4.21, SD = .88$ ) was viewed as more likable than the monotone condition ( $M = 3.43, SD = .82$ ). In addition, the normal condition ( $M = 4.21, SD = .88$ ) was also rated as more likable than both the high pitch/slow rate ( $M = 3.60, SD = .69$ ) and high pitch/fast rate ( $M = 3.56, SD = .79$ ) conditions.

The final analysis in RQ1 tested whether trustworthiness was influenced by vocalic condition. Unfortunately, results indicated no significant difference between the conditions ( $F(3, 125) = 2.15, p > .05$ ). Individuals in this study did not view any of the vocalic conditions as impacting an individual's trustworthiness in a significant way compared to the other conditions.

### Results (RQ2)

The second research question asked if an individual's potential to being hired was impacted by rate, pitch, and vocal variety. To test this, a one-way Analysis of Variance (ANOVA) was performed. Results indicated that a significant difference occurred between conditions ( $F(3, 119) = 8.076, p < .001$ ). Post-hoc tests (LSD) indicated that the normal condition ( $M = 4.70, SD = 1.49$ ) was rated as more hireable than the high pitch/slow rate ( $M = 3.21, SD = 1.66$ ), high pitch/fast rate ( $M = 3.04, SD = 1.69$ ), and monotone ( $M = 3.30, SD = 1.49$ ) conditions (see Table 2).

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#### **DISCUSSION**

The results from the first research question illustrate that the average vocal condition was perceived to be more honest and more likable than the other vocal conditions.

The finding that the average or “normal” vocal condition was perceived as more likable is consistent with findings documented in the literature. The average vocal condition was manipulated to be neither too high or too low pitched, nor too fast or too slow, and using some vocal variety, without being theatrical. Semic (1999) defined attractive voices as having moderate pitch, strong resonance, clear articulation, and appropriate volumes. Zuckerman and Miyake (1993) defined an attractive voice as being neither too high nor too low pitched. Burgoon et al. (1996) adds that a likable, pleasant voice varies throughout a conversation. However, the results found conflict with studies that suggest that higher pitched voices are seen as being more likable (Ohala, 1994; Van der Vaart et al., 2006; Michalsky & Schoormann, n.d.).

In contrast, the results from this study suggest that the more “average” one’s voice is, the more one is perceived as being honest, which is not directly supported in previous research. Most often than not, honesty is studied through deception. As seen in the literature, deception is most often associated with higher vocal pitch (Ekman & Friesen, 1974; Ekman, Friesen, & Scherer, 1976; Streeter et al., 1977). Conversely, lower pitch voices have been perceived as having more integrity (Tigue et al., 2012) and overall being more credible (Pearce & Conklin, 1971).

Lastly, results found that there were no significant differences amongst the vocal conditions and trustworthiness. Originally, it was thought that the vocal condition of high pitch/fast rate would be perceived as being the most trustworthy due to the relevant literature around trustworthiness

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and vocalics (Knowles & Little, 2016; Yokoyama & Daido, 2012). However, it is believed that the results displayed no significant differences for a couple reasons. First, there is some opposing evidence that argues higher pitch as being less trustworthy. As mentioned in the literature review, Elkins and Derrick (2013) found evidence that suggests that pitch and duration of response both negatively predicted lower trust levels. They found that higher vocal pitch early on in an interaction predicted lower trust levels. Even those with an average pitch (206 Hz) had a lower initial trust level, but over time the inverse relationship between vocal pitch and trust moved toward equilibrium. This finding may explain the results of trustworthiness. And second, the vocal condition may not have been perceived as trustworthy, but possible more as enthusiastic. As mentioned in the methodology section, trustworthiness and enthusiasm have both been seen to be translated as high pitch and fast rate, and so are confounding factors. Addington (1968) found that talking fast has also been associated with perceptions of enthusiasm and being animated. While Argyle (1988) comments that the personality trait, extroversion, which many associate with enthusiasm, is correlated with higher pitch (for males), greater vocal affect, faster speech, and fewer pauses (for females).

It was then found that out of the four vocal conditions, the average vocal condition was perceived as being the most hireable. These results are consistent with expectations from relevant literature. It is possible that those who were listening to the audio clips perceived the average speaker as being similar to themselves. Dabbs (1969) found that the more an applicant is similar to the interviewer, the more highly the applicant will be rated as likable. In addition, Greenberg (2010) found that the similar-to-me effect seems to be partially the outcome of the tendency for “people to be able to empathize and relate better to similar others and to be more lenient toward

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them.” In regards to the area of vocalics, likability has been associated with vocal attractiveness (Semic, 1999; Zuckerman & Driver, 1989) and conversational style of speech (Pearce & Conklin, 1971). Research has also found that attractive voices are viewed more favorably (Zuckerman & Driver, 1989; Semic, 1999).

### **Implications**

Based on the results of this study, there are several implications, specifically in relation to active job seekers and professionals working in staffing and recruitment. In regards to active job seekers, this study implies that the way one talks seems to have an impact on characteristics and chances of being hired. The results of this study can then assist job seekers, who may talk too fast or too slow or may have a high pitched voice, better prepare themselves for an interview, specifically a phone interview in which there are no other nonverbal cues, such as a suit, a firm handshake, or a smile, to positively alter the perceptions of the interviewer. This study does not, however, minimize the importance of the other interview preparation literature, but merely fills a gap. Now, when preparing for an interview, job candidates can possibly prepare more fully to increase their chances of being hired just by altering the way they speak.

In regards to staffing and recruitment professionals, this study highlights that perceptions can be altered just by the way a job candidate talks. This may have some negative implications, in the way that, people who do not have an “average” voice may be at a disadvantage, especially during a phone interview. This study shows the importance of understanding these biases and faulty perceptions. Although the interviewer may perceive a candidate as being deceptive or unintelligent, this perception may not reflect reality. And with the major labor shortage soon approaching, it is vital that staffing and recruitment professionals not eliminate qualified

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candidates based on the sound of their voice. By being aware of these perceptions and biases, interviewers can avoid eliminating potential employees.

#### Limitations

Some limitations of this study include the results for the perception of trustworthiness, the geographically limitation of the survey participants, and the lack of specificity of the conclusions.

As discussed previously, there were no significant differences found between the four groups for trustworthiness. Because all the conditions were perceived equally for trustworthiness, this implies that none of the vocal conditions captured trustworthiness accurately enough to result in a significant difference. This may have been due to inaccurate vocal conditions assigned to capture trustworthiness.

Due to the fact that the survey participants were from the New England region of the United States, the results and implications are only applicable to job seekers and employers within the New England region, comprising six states of the northeast United States: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. In addition, the variables chosen, honesty, likability, and trustworthiness, were ranked highest by employers in the New England region, specifically within the state of Rhode Island. If the sample population had included participants from a variety of regions and/or states, the results and implications may have been more widely applicable to those throughout the United States. However, due to the location of the participant population, these results cannot be accurately generalized across the United States.

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In addition, because the variables used, honesty, likability, and trustworthiness, were a reflection of an overall hireable job candidate, the results and implications may not hold true for specific job positions and industries. It may be found that in some jobs and industries other characteristics looked at, such as professionalism, intelligence, and credibility, may be perceived as more important than the variables observed in this study.

#### Future Directions

Based on the results and implications of this study, there are several opportunities for expanding on the present work and filling gaps within the area of vocalics. From here one can build off the present work and study how various accents within the United States or globally are being perceived in the workplace and how certain accents impact the likelihood of being hired.

In the current business sphere, increases in globalization and competition are two of the main driving factors for change and growth. With expanding and globalizing come more diverse work environments and more accents in the workplace. Efforts are being made to increase diversity across industries. Both Apple and Intel have spent millions of dollars in the hopes of diversifying their workplaces (Lev-Ram, 2015; Wingfield, 2015). Reaching into the global job market is made easier with the advancements in technology, such as phone-screenings and Skype interviews. However, studies have shown an overall unfavorable perception of those with dissimilar accents.

Deprez-Sims and Morris (2010) looked at the influence of accents on the evaluation of job applicants during an interview for a human resource manager position. Amongst a U.S. Midwestern accent, a French accent, and a Colombian accent, U.S. listeners rated the U.S. Midwestern accent as most favorable. Likewise, Gill (1994) evaluated the perception and



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comprehension differences amongst three accents in a classroom setting: British, North American English, and Malaysian. Results showed that the American accent was perceived as most favorable, followed by the British and then Malaysian. Munro and Derwing (1995) found that English listeners took longer to process and comprehend Mandarin speakers. Although some studies show opposing results (Hosoda & Stone-Romero, 2010), the majority of studies find that speakers with similar accents to the listener are perceived more favorably than dissimilar ones.

As one can see from the relevant literature, there is potential for expansion on the present work, as well as a gap to fill merely looking at the regional accents within the United States.

## **CONCLUSION**

This study aimed to understand the impact that vocal characteristics in an individual have on the interviewer's perception of the interviewee, and how that impacts the hiring process, and ultimately, the hiring decision. We found that the average voice, one that is neither too high nor too low pitched and varies throughout a conversation, was perceived as being more honest, likable, and overall, more hireable. For job seekers, we hope this offers some insight into the interview process, as well as provides simple advice to communicating one's likability and honesty more effectively. Lastly, for professionals working in staffing and recruitment, we hope this study sparks an awareness of how perceptions can be altered just by the way a job candidate speaks, but these perceptions may not hold true. It is important to be conscious of such biases, so that we can avoid them.

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**Table 1.**

*Results from Pilot Study*

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	Enthusiasm	Intelligence	Confidence	Trustworthiness	Likeability	Credibility	Professionalism	Honesty	Persuasiveness	Dominance/Assertiveness
Professional 1	9	10	5	8	6	6	7	9	4	4
Professional 2	8	5	8	9	10	8	6	7	5	5
Professional 3	10	8	10	10	10	10	8	10	8	7
Average	<b>9</b>	7.67	7.67	<b>9</b>	<b>8.67</b>	8	7	<b>8.67</b>	5.67	5.34

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**Table 2.**

*Results for Research Questions 1 & 2*

	High Pitch Slow Rate	High Pitch Fast Rate	Normal	Monotone
Honesty	4.41(.86) <sub>a</sub>	4.33(.85) <sub>a</sub>	4.91(.93) <sub>b</sub>	4.57(.68) <sub>ab</sub>
Likability	3.60(.69) <sub>a</sub>	3.56(.79) <sub>a</sub>	4.21(.88) <sub>b</sub>	3.43(.82) <sub>a</sub>
Trustworthiness	4.66(.84)	4.31(.96)	4.84(.89)	4.63(.54)
Hirable	3.21(1.66) <sub>a</sub>	3.04(1.69) <sub>a</sub>	4.70(1.49) <sub>b</sub>	3.30(1.49) <sub>a</sub>

*Note.* Within each variable, values with different subscripts indicate significant differences at the  $p < .05$  level.

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#### **Appendix A - (Semi-Structured Interview Questions)**

1. Describe your most recent successful interview with an applicant. What made them stand out, besides their education and experience background? What make them a desirable candidate?
2. Describe your most recent unsuccessful interview with an applicant. What made them undesirable, besides their education and experience background?
3. Tell me of a time you interviewed someone with an accent? How did you perceive the candidate? Intelligent – unintelligent, credible – not credible, trustworthy – untrustworthy, likable – unlikable.
4. Does Company XYZ utilize phone interviews as a pre-screening method? (If yes, then proceed to question #5).
5. Tell me of a time you interviewed someone over the phone. What do you look for during this conversation? What makes you want to bring them in for a face-to-face interview?
6. What would you consider the most “hirable” traits to be? What do you look for in a candidate?
7. What would you consider the most “unhirable” traits to be? What turns you off about a candidate?
8. Generally, how important do you think the rate/the pitch/the volume someone speaks is?
9. How would you describe someone with a “hirable” voice? Is it loud – soft, is it high or low pitched, do they speak quickly or slowly?

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10. Rate the following soft skills on a scale from 1 to 10, 10 being extremely important, 1 being not important:

- Enthusiasm
- Intelligence
- Confidence
- Trustworthiness
- Likability (Cultural Fit)
- Credibility
- Professionalism
- Honesty
- Ability to sell others (Persuasiveness)
- Dominance/ Assertiveness



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#### Appendix B – (Survey)

You are invited to participate in a study called Talking the Talk: The Effect of Vocalics in an Interview. We hope to learn how aspects of speech can affect the interviewer's perceptions of the candidate in regards to their chances of getting hired. You were selected as a possible participant in this study because of your experience in the realms of hiring and recruitment, specifically your association with Bryant University. If you decide to participate, we will conduct an experiment involving the following procedures:

1. You will be prompted to listen to an audio recording.
2. After listening to the recording, you will be asked several questions regarding the audio recording.
3. Answer the questions as honestly as possible.

Any information obtained in connection with this study will remain confidential and will not be disclosed to the general public in a way that can be traced to you or your employer. In any written reports or publications, no participant other than the researchers will be identified, and only anonymous data will be presented. Your participation is totally voluntary, and your decision whether or not to participate will not affect your future relations with Bryant University or its employees in any way. If you decide to participate, you are also free to discontinue participation at any time without affecting such relationships. However, it is requested that you notify the investigator of this. If you have any questions, please contact Marilena Phillips at [mphillips1@bryant.edu](mailto:mphillips1@bryant.edu) or Dr. Christopher Morse at [cmorse2@bryant.edu](mailto:cmorse2@bryant.edu). If you have any additional questions later, we will be happy to answer them. Please select the button below for "I agree" if you have decided to participate. Your selection of this option indicates only that you are at least 18 years of age and have read the information provided above. Your selection does not obligate you to participate, and you may withdraw from the study at any time without consequences.

- ☐ I agree. (1)  
☐ I disagree. (2)

Condition: I agree. Is Selected. Skip To: End of Block. Condition: I disagree. Is Selected. Skip To: End of Survey.

Please listen to the audio clip provided in this section. We suggest you use headphones and adjust the volume to a comfortable setting before you proceed. Please note that this portion of the survey does not work on mobile devices. If you are on a mobile device currently, please proceed on a computer.

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Select the option that most accurately reflects how strongly you agree with each statement.

	Very Strongly Disagree (1)	Strongly Disagree (2)	Disagree (3)	Neutral (4)	Agree (5)	Strongly Agree (6)	Very Strongly Agree (7)
I believe what this person says. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is not ethical. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person has integrity. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust this person will tell me the truth. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is honorable. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is a liar. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is not believable. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is honest. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Select the option that most accurately reflects how strongly you agree with each statement.

	Very Strongly Disagree (1)	Strongly Disagree (2)	Disagree (3)	Neutral (4)	Agree (5)	Strongly Agree (6)	Very Strongly Agree (7)
This person is friendly. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is likable. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is warm. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is approachable. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would ask this person for advice. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like this person for a coworker. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like this person for a roommate. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to be friends with this person. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is physically attractive. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is similar to me. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This person is knowledgeable. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For each pair of adjectives, select the point which reflects the extent to which you believe the

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adjectives describe the candidate in the audio clip.

	Just 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Unjust 7 (7)
1 (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Honest 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Dishonest 7 (7)
1 (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Valuable 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Worthless 7 (7)
1 (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Safe 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Unsafe 7 (7)
1 (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Kind 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Cruel 7 (7)
1 (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Clean 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Dirty 7 (7)
1 (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How likely would you be to hire this person?

	Extremely likely (1)	Moderately likely (2)	Slightly likely (3)	Neither likely nor unlikely (4)	Slightly unlikely (5)	Moderately unlikely (6)	Extremely unlikely (7)
(1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select an age range.

- ☐ 18-24 (1)
- ☐ 25-35 (2)
- ☐ 36-45 (3)
- ☐ 46-55 (4)
- ☐ 56-65 (5)
- ☐ 65+ (6)

How long have you been with your current employer?

- ☐ Less than 1 year (1)
- ☐ 1 year (2)
- ☐ 2-5 years (3)
- ☐ 5-10 years (4)
- ☐ 10+ years (5)

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Please select a gender.

- ☐ Male (1)
- ☐ Female (2)
- ☐ Wish not to answer (3)

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#### **Appendix C – (Script)**

“Hi, I’m Pat Toner and I am interested in the graphic design position in your Boston location.

After reading the job description for this position through an Indeed.com posting, I know I would make an excellent addition to your team. I graduated from Duke University with a bachelor’s degree in Marketing and a concentration in graphic design. My background is in website development. Having worked for over five years as a professional graphic designer specializing in brand identification means I’ve built my reputation on the longevity of my logo designs. I can say, that not only are my clients happy with what I’ve done for them, but my designs have gone on to win national and international logo and branding awards. I have worked hand in hand with some of the biggest advertising agencies and companies and out of over 300 contracts, have had only one logo changed, and that was as a result of a merger, not poor design. I’d like to bring that award winning history to your company. And, although I love my current role, I feel I’m now ready for a more challenging assignment and this position would do just that.”